REMARKS

This amendment is intended as a full and complete response to the non-final Office Action dated October 31, 2007. In the Office Action, it is noted that claims 1-12 are pending, of which claims 5-12 are withdrawn from consideration and claims 1-4 stand rejected. By this response, claims 1 and 3-20 have been amended, and claim 2 has been cancelled.

The telephone conference conducted on February 28, 2007 between Examiner Beach and applicant's attorneys, Steven M. Hertzberg and Theodore J. Pierson, is duly noted and appreciated. During the interview, it was discussed that the set of claims examined by the Examiner was not the latest claim set as provided by the Preliminary Amendment submitted to the USPTO on May 19, 2006. It is noted that the latest set of claims as submitted to the USPTO by the Preliminary Amendment were correctly published in US Patent Application Publication No. 2007/0215218 on September 20, 2007. This response is based on the claim set as provided by the Preliminary Amendment of May 19, 2006. Since the full set of claims was not properly examined, it was agreed that a new non-final Office Action would be issued if this present amendment does not place the claims in condition for allowance.

In view of both the amendments presented above and the following discussion, it is submitted that none of the claims now pending in the application are anticipated or obvious under the provision of 35 USC §102 and §103. Thus, it is believed that all of the claims are now in allowable form.

I. Objections to claims 5-12

As noted above, a Preliminary Amendment was filed on May 19, 2006 to change multiple dependent claims into single independent form. It is submitted that the objection to and withdrawal of claims 5-12 is inappropriate. Withdrawal of the objection to claims 5-12, and examination of claims 1-20 as originally filed under the Preliminary Amendment dated May 19, 2006, and as presently amended herein, is respectfully requested.

II. Rejections under 35 U.S.C. §102

As a preliminary matter, we believe that it would be helpful to review the appropriate standard under 35 U.S.C. § 102 for analyzing the features of a claim with respect to the prior art. It is well settled that "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)(citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). The cited patents fail to disclose each and every element of the claimed invention, as arranged in the claim.

A. Regarding U.S. Patent No. 4,599,172

Claims 1-4 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,599,172 to Gardes (hereinafter the "`172 patent"). The rejection is respectfully traversed.

Independent claim 1, as amended, recites:

> An apparatus for removal and filtration of drilling fluid during top hole drilling, wherein a suction module (10) comprises an elongated pipe-formed body (30), which is open at the top and is arranged to an ocean-bottom penetrating pipe, through which is led a drill stem for drilling of the top hole, and
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> the pipe-formed body (30) comprises a filtration device with through openings, where said openings are arranged to let through to at least one outlet passage (32) in the pipe wall, filtered return drilling fluid containing dispersed material, such as swelling clay or stones,
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> wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall, the material in the drilling fluid being of a size less than the diameter of a inlet pipe of the pump or openings of the pump,
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> the upper part of the pipe-formed body (30) is arranged to contain return drilling fluid, which is not fed to the pump module (12), and where a volume of said drilling fluid stands as a "plug" above the outlet (32) of the suction pipe (22) of the pump and is sealed against the drill stem (16), and
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> the level of return drilling fluid in the pipe-formed body (30) being adjusted by regulation of the capacity of the pump (12). (Emphasis added).

The `172 patent discloses that:

> "[t]ank portion 22 is provided with fluid conveying tube 30, best seen in FIGS. 4 and 6, which is in fluid communication with the interior of tank 22 and angled downwardly and away from tank 22 for conveying drilling fluid within tank 22 to separators and filters for processing of drilling fluid so that it may be recirculated through the well bore during drilling operations." (See `172 patent, col. 4, lines 35-42).

Even though the `172 patent discloses recirculation of the drilling mud back down the drilling hole, such systems are known as "pump and dump", i.e. excess mud is

dumped on the sea floor. The only pumping mentioned in the `172 patent is pumping of mud up or down the drill casing (pipe) in the drill hole. The surface mentioned in the `172 patent is the sea floor (sea bottom). The device of the `172 patent is to be used in riser systems, i.e. in where a riser is mounted between the well head and the drilling rig.

By way of comparison, the present system is used in riserless systems, i.e. for top hole drilling before BOP (blow out protection) and the riser is installed, and provides a no spill system. The "plug" of drilling fluid provides such a no spill system, wherein the "plug" volume is regulated by the pump. The pump is further arranged to transport filtered drill cuttings to the surface of the water, and to separators on the drilling rig. The present invention, as recited by claims 1 and 3-20, provides a solution which transports return drilling fluid away from a well that is drilled at top hole drilling, and also that any drilling fluid that is used in the drilling can be recycled to be used in the same drill hole or in another drill hole. The apparatus as claimed further provides a solution that results in drilling fluid being filtered to remove any large particles and then "exported to a pump module (12) through at least one outlet passage in the pipe wall."

Since the `172 patent fails to disclose or suggest an apparatus for removal and filtration of drilling fluid during top hole drilling, "wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall", the `172 patent fails to teach each and every element of the claimed invention, as arranged in the claim.

As such, it is submitted that claim 1 is not anticipated and fully satisfies the requirements under 35 U.S.C. § 102 and is patentable thereunder. Furthermore, claims 3-

20 depend, either directly or indirectly, from independent claim 1 and recite additional inventive features. As such, and for at least the same reasons discussed above, it is submitted that these dependent claims also fully satisfy the requirements under 35 U.S.C. § 102 and are patentable thereunder. Therefore, withdrawal of the rejection is respectfully requested.

B. Regarding U.S. Patent No. 4,410,425

Claims 1-4 have further been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,410,425 to Gardes (hereinafter the "'425 patent"), respectively. The rejection is respectfully traversed.

Independent claim 1, as amended, recites:

> An apparatus for removal and filtration of drilling fluid during top hole drilling, wherein a suction module (10) comprises an elongated pipe-formed body (30), which is open at the top and is arranged to an ocean-bottom penetrating pipe, through which is led a drill stem for drilling of the top hole, and
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> the pipe-formed body (30) comprises a filtration device with through openings, where said openings are arranged to let through to at least one outlet passage (32) in the pipe wall, filtered return drilling fluid containing dispersed material, such as swelling clay or stones,
>
> wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall, the material in the drilling fluid being of a size less than the diameter of a inlet pipe of the pump or openings of the pump,
>
> the upper part of the pipe-formed body (30) is arranged to contain return drilling fluid, which is not fed to the pump module (12), and where a volume of said drilling fluid stands as a "plug" above the outlet (32) of the suction pipe (22) of the pump and is sealed against the drill stem (16), and
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> the level of return drilling fluid in the pipe-formed body (30) being adjusted by regulation of the capacity of the pump (12). (Emphasis added).

The `425 patent discloses that:

> "[t]hat admixture in tank 22 would fill tank 22 until the level of fluid would reach the flow conveying tube 30 at which point the admixture would be directed outward up tank 22 in flow 30 into shakers for further filtering." (See `425 patent, col. 4, lines 58-62).

Even though the `425 patent discloses recirculation of the drilling mud back down the drilling hole, such systems are known as "pump and dump", i.e. excess mud is dumped on the sea floor. The only pumping mentioned in the `425 patent is pumping of mud up or down the drill casing (pipe) in the drill hole. The surface mentioned in the `425 patent is the sea floor (sea bottom). The device of the `425 patent is to be used in riser systems, i.e. in where a riser is mounted between the well head and the drilling rig.

By way of comparison, the present system is used in riserless systems, i.e. for top hole drilling before BOP (blow out protection) and the riser is installed, and provides a no spill system. The "plug" of drilling fluid provides such a no spill system, wherein the "plug" volume is regulated by the pump. The pump is further arranged to transport filtered drill cuttings to the surface of the water, and to separators on the drilling rig. The present invention, as recited by claims 1 and 3-20, provides a solution which transports return drilling fluid away from a well that is drilled at top hole drilling, and also that any drilling fluid that is used in the drilling can be recycled to be used in the same drill hole or in another drill hole. The apparatus as claimed further provides a solution that results in drilling fluid being filtered to remove any large particles and then "exported to a pump module (12) through at least one outlet passage in the pipe wall."

Since the `425 patent fails to disclose or suggest an apparatus for removal and filtration of drilling fluid during top hole drilling, "wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall", the `425 patent fails to teach each and every element of the claimed invention, as arranged in the claim.

As such, it is submitted that claim 1 is not anticipated and fully satisfies the requirements under 35 U.S.C. § 102 and is patentable thereunder. Furthermore, claims 3-4 depend, either directly or indirectly, from independent claim 1 and recite additional inventive features. As such, and for at least the same reasons discussed above, it is submitted that these dependent claims also fully satisfy the requirements under 35 U.S.C. § 102 and are patentable thereunder. Therefore, withdrawal of the rejection is respectfully requested.

III. Rejections under 35 U.S.C. §103

Claims 3-4 were rejected under 35 USC 103(a) as being unpatentable over the `172 patent or the `425 patent, respectively. The rejection is respectfully traversed.

The combination of the cited art fails to disclose or suggest the Applicant's invention as a whole. Claims 3 and 4 depend from independent claim 1 and recite additional inventive features.

In particular, dependent claims 3 and 4, as amended, recite in part:

> "An apparatus for removal and filtration of drilling fluid during top hole drilling, ... wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall..." (Emphasis added).

As discussed above, the `172 patent and the `425 patent, respectively, fail to disclose or suggest the claimed feature of "wherein filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall." The present invention deposits return drilling fluid at another location on the ocean bottom, away from a well that is drilled at top hole drilling, in order to, among other things, improve visibility for ROV (remote controlled submarine vessel), visibility for monitoring equipment, reduce the pollution around the template etc. (See US 2007/0215218 at paragraph [0029]). The pump module (12) of the present invention is used for pumping the drilling fluid away from the well that is drilled at top hole drilling. On the other hand, the only pumping mentioned in the `172 patent and the `425 patent, respectively, is pumping of mud up or down the drill casing (pipe) in the drill hole. The surface mentioned in the `172 patent and the `425 patent, respectively, is the sea floor (sea bottom). Accordingly, the `172 patent and the `425 patent, respectively, teach away from the present invention. Therefore, the combination of the `172 patent and the `425 patent, respectively, and the Examiner's Official Notice regarding that "having measurements to monitor fluid level is obvious in the art of oil fluid recovery in order to properly control the drilling operations" fails to disclose or suggest the present invention as a whole.

Moreover, nowhere in the cited art is there any teaching, motivation, suggestion or disclosure of monitoring the level of the drilling fluid and wherein monitoring signals are sent to an operator for regulation of the capacity of the pump (12), as provided by the

present invention (claims 3 and 4). Accordingly, the combination of the cited art would not motivate a person skilled in the art towards the present invention, and fails to teach or suggest the invention as a whole.

For the reasons described above, it is submitted that dependent claims 3 and 4 are not obvious and fully satisfy 35 U.S.C. §103 and are patentable thereunder. Therefore, it is respectfully requested that the claim rejections be withdrawn.

Regarding claims 5-20

Dependent claims 5-20 were not examined in the present Office Action. Each of these claims depend, either directly or indirectly, from independent claim 1 and recite additional inventive features. As such, and for at least the same reasons discussed above, it is submitted that these dependent claims also fully satisfy the requirements under 35 U.S.C. §§ 102 and 103 and are patentable thereunder.

Conclusion

In view of both the amendments and discussion presented above, the Applicant submits that this Amendment responds to all of the points raised in the Office Action. Thus, it is submitted that all of the claims are in condition for allowance. Accordingly, both reconsideration of this application and its prompt passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues in any of the claims now pending in the application, we respectfully request that the Examiner telephone Theodore J. Pierson at (212) 885-9296 or Steven M. Hertzberg at (212) 885-9223 or Thomas E. Spath at (212) 885-9250 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Extension of Time

A Petition for a one-month extension of time is also being filed with this Amendment.

Respectfully submitted,

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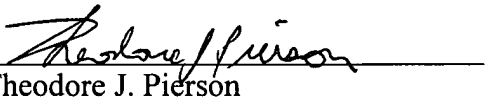

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